

In Focus



NPRA HURRICANE UPDATE – October 17, 2005

As of October 14, the U.S. Minerals Management Service's reports that shut-in oil production is 1,008,909 million barrels of oil or 67% of daily GOM oil production, which is currently 1.5 million barrels per day. Shut-in gas production is at 5.647 billion cubic feet per day or 56% of the daily gas production in the GOM, which is currently about 10 billion cubic feet per day.

MMS also reports that the cumulative production shut-in for the period 8/26/05-10/14/05 is 57.6 million barrels of oil, which is about 10.5 percent of yearly GOM oil production, and 288.9 billion cubic feet of natural gas, which is equivalent to about 7.9 percent of yearly GOM gas production.

Refinery shutdowns in the GOM region total about 1.6 million barrels per day. Two refineries in the Beaumont/Port Arthur are still shut down as well as one in the Houston area following Hurricane Rita. Others are at normal operations or restarting. There are 3 refineries still shut down in the New Orleans area following Hurricane Katrina.

Below is the current status of the major refineries taken offline in advance of Rita:

Astra 100,000 b/d Pasadena, TX, operating at full rate
 ExxonMobil 557,000 b/d Baytown, Texas, operating at full rate
 Calcasieu 30,000 b/d Lake Charles, LA refinery, operating at full rate
 Citgo Lake Charles, LA, 324,300 b/d, restarting
 ConocoPhillips' 229,000 b/d Sweeny refinery, operating at full rate
 ConocoPhillips' 239,400 b/d refinery in Westlake, LA, restarting
 Lyondell-Citgo's 270,200 b/d Houston refinery, operating at reduced rates
 Marathon 72,000 b/d Texas City refinery, operating at full rate
 Valero's 209,950 b/d Texas City refinery, operating at full rate
 Valero's 255,000 b/d Port Arthur refinery, restarting
 Valero's 83,000 b/d Houston refinery, reduced rates
 Shell/Pemex 333,700 b/d Deer Park refinery, operating at reduced rates
 Total's 233,500 b/d refinery in Port Arthur, restarting

TOTAL RESTARTING: 2,937,050

ExxonMobil 348,500 b/d Beaumont refinery, shut down – attempting to restart
 BP, Texas City, Texas, 437,000 b/d, shut down – expected restart late October/early November
 Shell/Motiva, 285,000 b/d Port Arthur refinery, shutdown – attempting to restart

SHUTDOWN: 1,070,500

Below is the status of the refineries shutdown by Hurricane Katrina:

Chevron Pascagoula, MI, refinery, restarted October 6 – normal production by late October
 ExxonMobil Chalmette, LA, refinery, partial power
 ConocoPhillips Belle Chasse, LA, refinery, full power
 Murphy Oil Meraux, LA, refinery, partial power

SHUTDOWN: 554,000

TOTAL SHUTDOWN (Rita and Katrina): 1,624,500

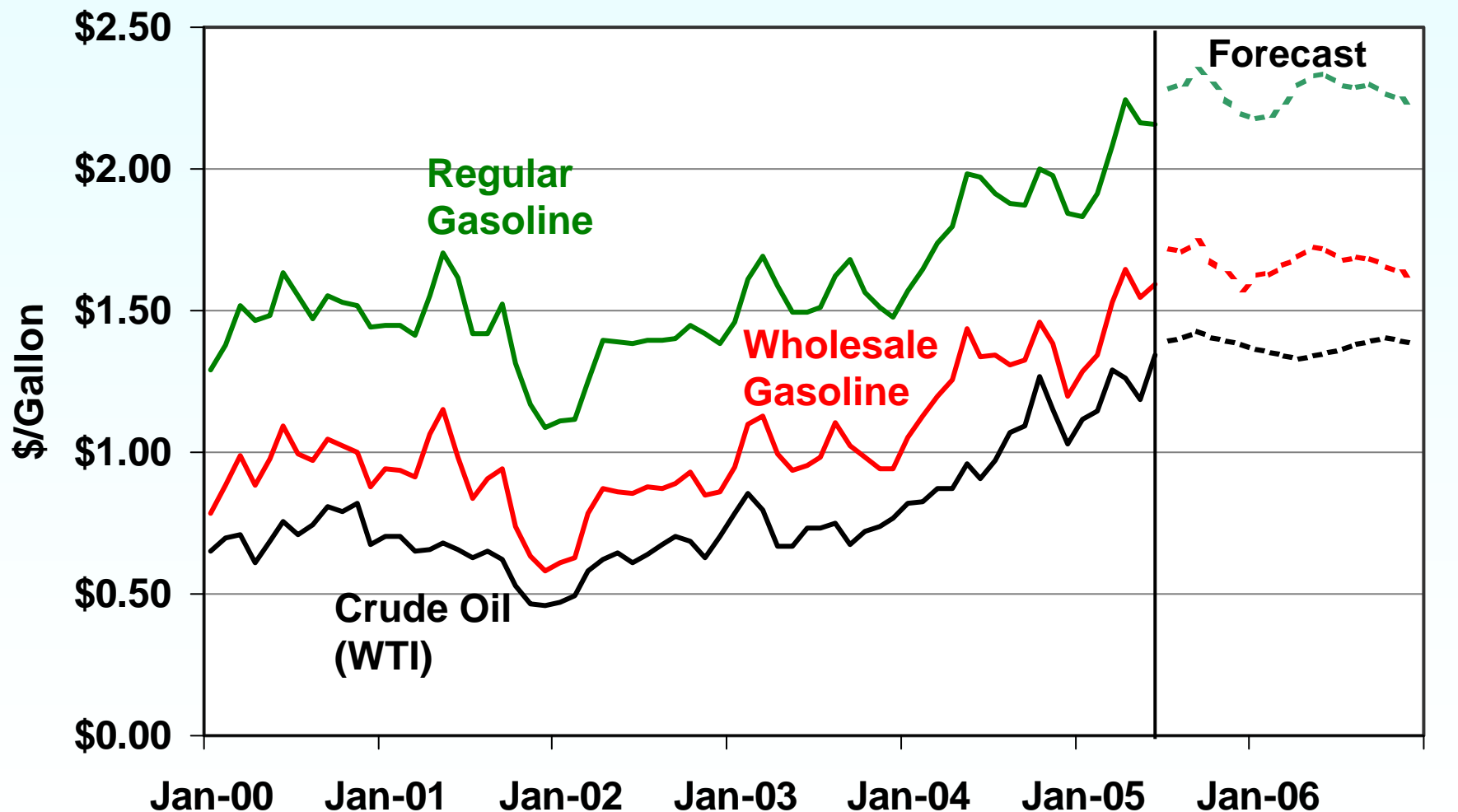
All onshore interstate oil pipelines have resumed 100% normal operating capacity. Some systems continue to experience reduced availability of products to transport, according to the Association of Oil Pipelines.

Residential heating fuel price survey returns to high prices. On October 12, EIA released the October Short-Term Energy Outlook. This winter, residential space-heating expenditures are projected to increase for all fuel types compared to year-ago levels. On average, natural gas heating households can expect to spend \$350 or 48% more this winter on fuel. Households heating with heating oil can expect to pay, on average, \$378 or 32% more this winter. Households heating with propane can expect to pay, on average, \$325 or 30% more this winter. And households heating with electricity can expect, on average, to pay \$38 or 5% more this winter. Prices for petroleum and natural gas will remain high due to tight international supplies of crude and hurricane-induced supply losses.

U.S. average retail gasoline price falls 8 cents. According to the EIA's Weekly Petroleum Report, as of October 13, the average retail price for regular gasoline decreased by 8 cents to \$2.85 per gallon, after rising the previous two weeks. This week's price is 85.5 cents higher than this time last year. Retail diesel fuel prices rose 0.6 cents to \$3.15 per gallon, the highest price on record. Residential heating oil prices decreased for the period ending October 10. The average residential heating oil price dropped 4.4 cent from last week to reach \$2.65 per gallon, which is 74 cents per gallon higher than last year this time. Wholesale heating oil prices decreased 15.5 cents to reach \$2.09 per gallon, an increase of 58.5 cents over the same period last year. The average residential propane prices increased 2 cents to \$1.94 per gallon, an increase of 33 cents from this time last year.

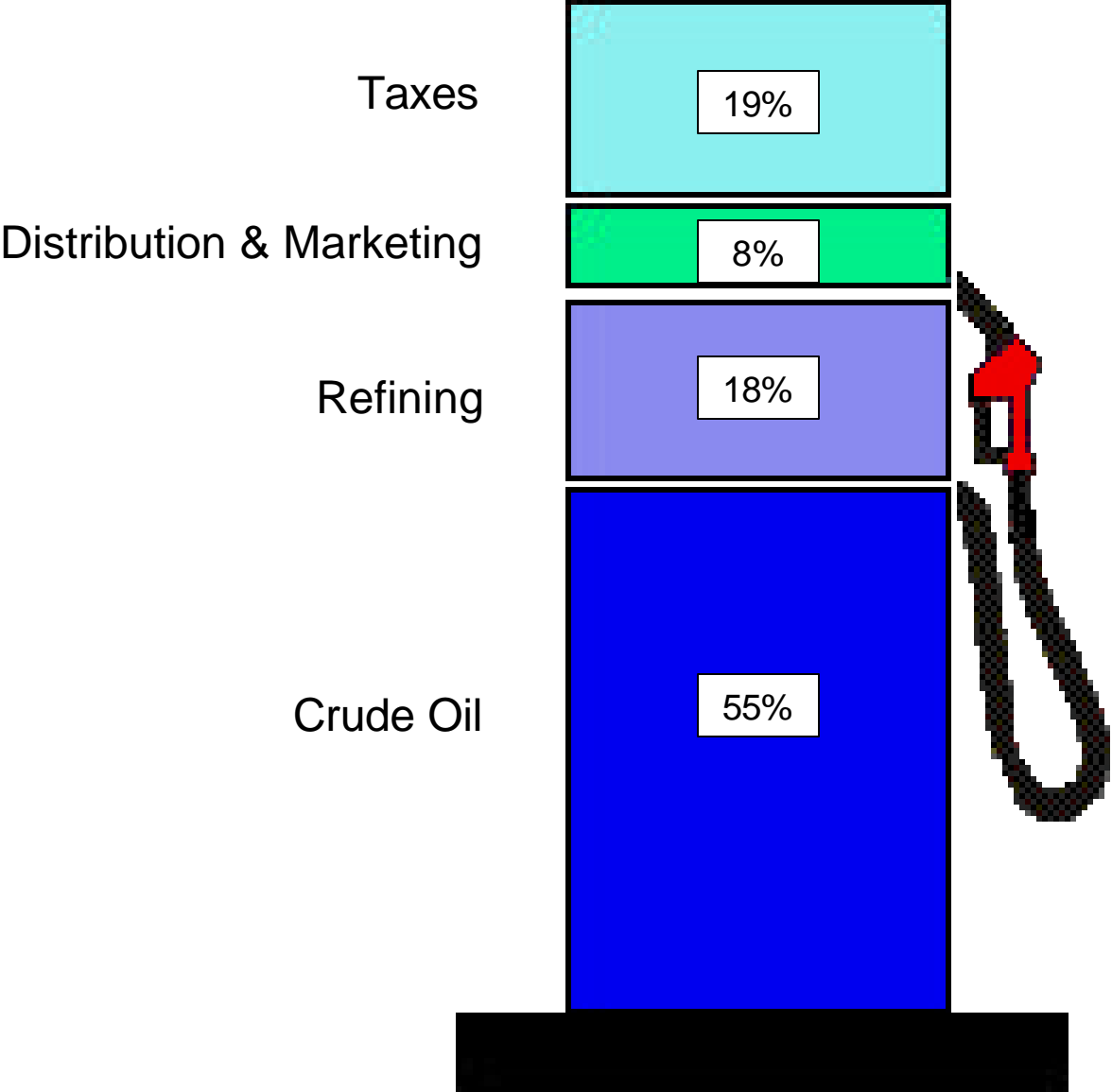
EIA's Weekly Natural Gas Storage Report released October 13 indicates working gas in storage increased to 2,987 BCF, which is 1.2% above the five-year-average inventory level. The implied net injection of 58 BCF is about 10% below the five-year average of 64 BCF for the week and about 16% below last year's injection of 69 BCF. Working gas levels are currently about 34 BCF above the five-year average, but 162 BCF below the level this time last year. On October 12, the prices of the NYMEX futures contract for November delivery at the Henry Hub settled at \$13.524 per MMBtu, declining about 66 cents or nearly 5 percent since October 5.

Crude Oil and Gasoline Price Outlook

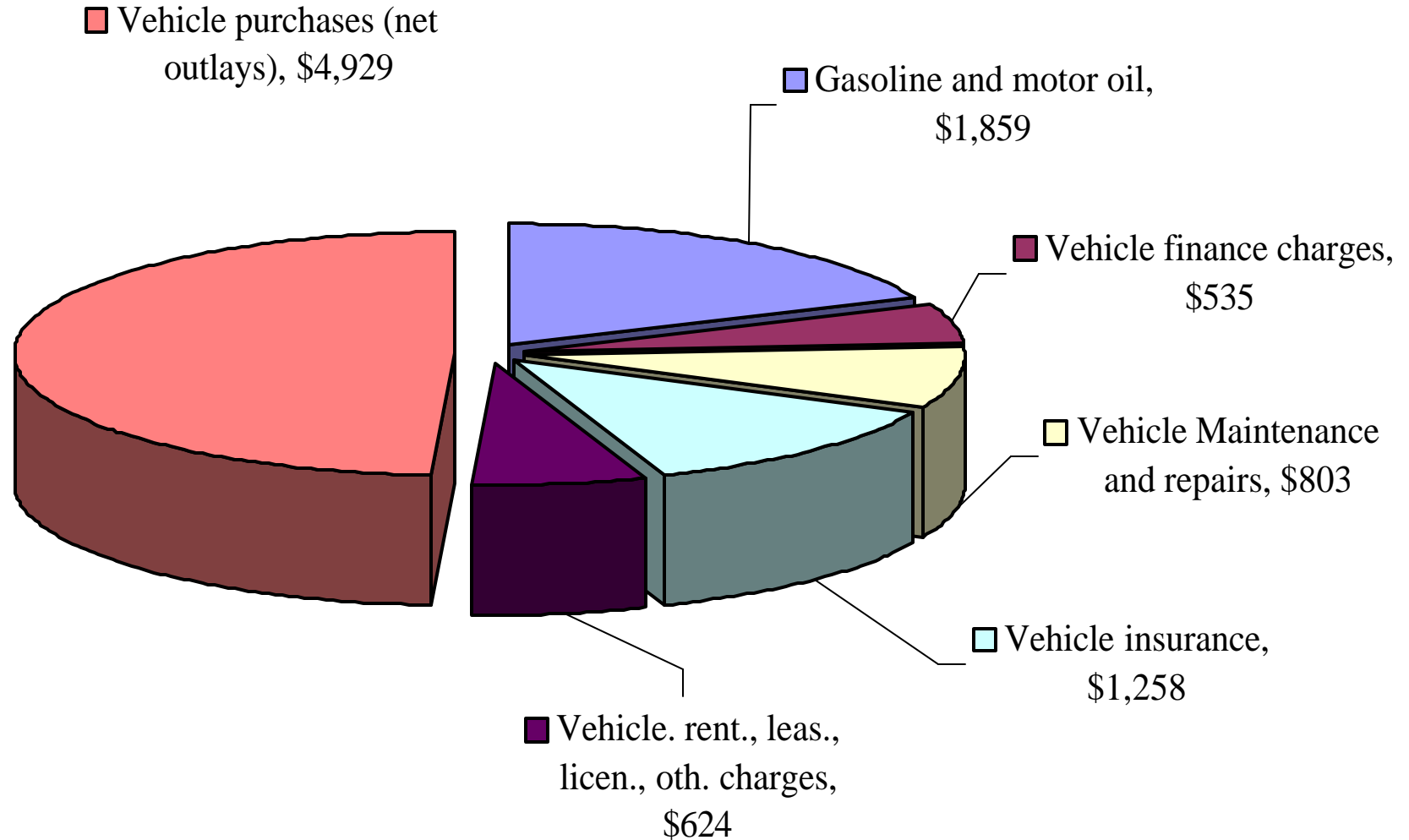


Sources: History: EIA; Projections: Short-Term Energy Outlook, July 2005.

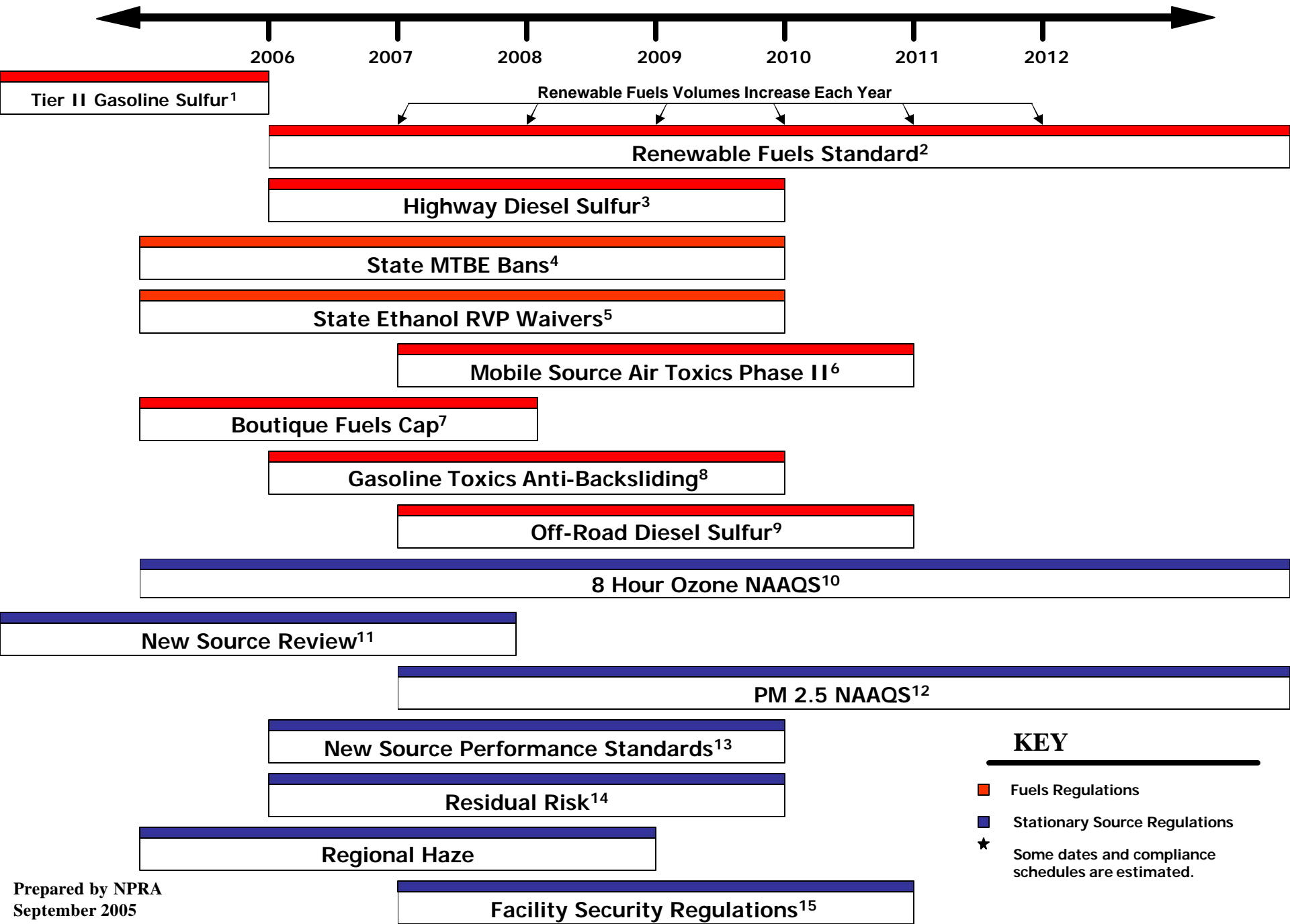
What We Pay for in a Gallon of Regular Gasoline



2003 Annual Estimated Vehicle Expenditures for a Family of Four



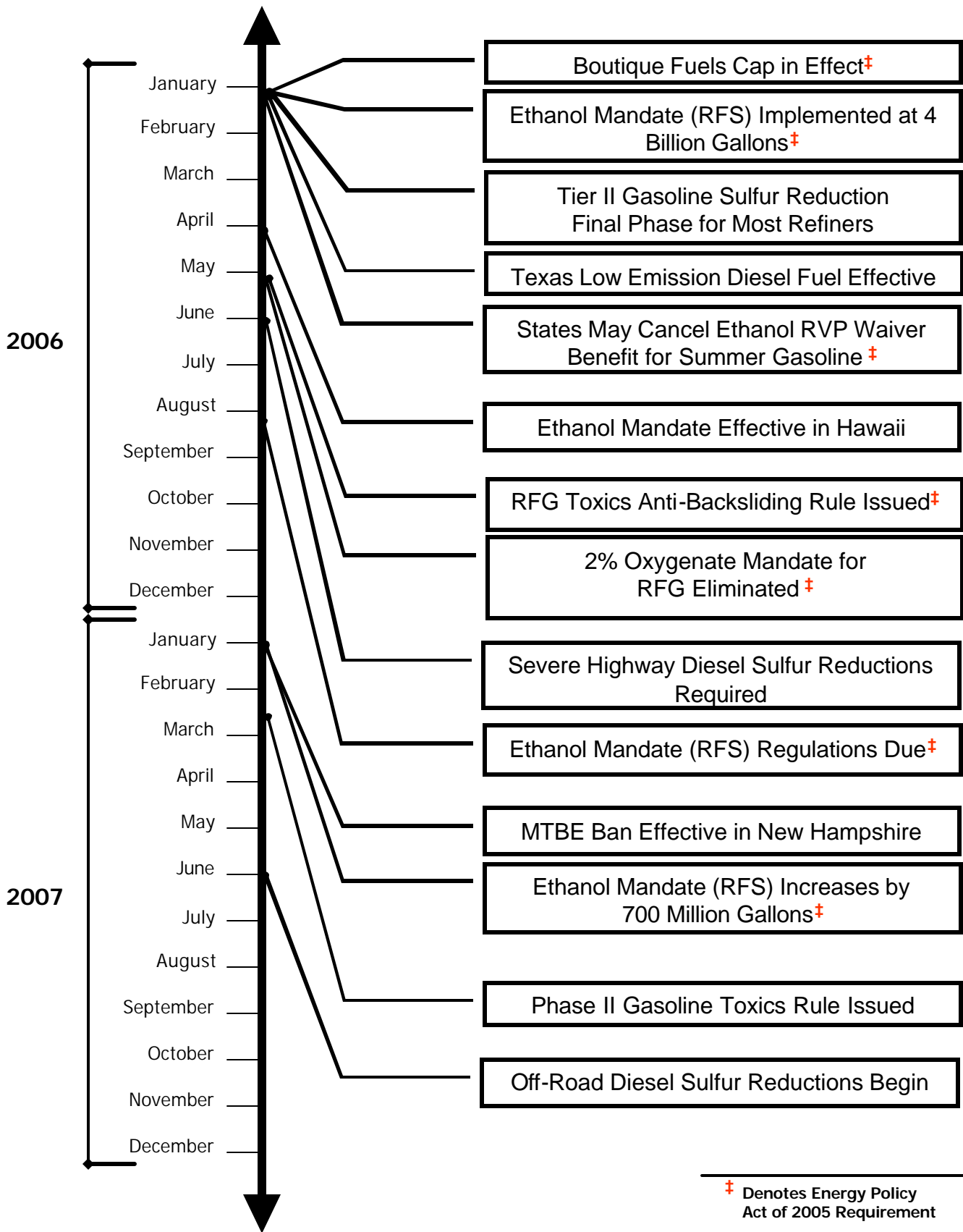
Projected Regulatory Impacts on Refineries, 2006 - 2012[★]



Notes:

1. Longer compliance time for refineries in Alaska and Rocky Mountain states as well as small refineries covered by the Small Business Regulatory Enforcement and Flexibility Act (SBREFA). Additional compliance time is available for these refineries if they produce ultra low sulfur highway diesel beginning in 2006.
2. The Energy Policy Act of 2005 includes a renewable fuels standard (RFS) which mandates the use of 4 billion gallons of renewable fuels starting in 2006. The mandate increases to 7.5 billion gallons in 2012. EPA must promulgate regulations by August 2006.
3. Longer compliance time for small refiners covered by SBREFA.
4. Approximately twenty-five states currently have MTBE bans in place and others may pass similar bans in the future.
5. The Energy Policy Act of 2005 allows state governors to petition EPA to eliminate the one pound RVP waiver for summer gasoline blended with ethanol.
6. Phase II Mobile Source Air Toxics Rule to be proposed in February, 2006. Final rule expected in 2007.
7. The Energy Policy Act of 2005 caps the number of motor fuels available for use in State Implementation Plans at the same level as those already in use as of September 1, 2004. EPA must publish a list of approved fuels by state and PADD by November, 2005.
8. Under the Energy Policy Act of 2005 EPA must promulgate a rule to implement RFG anti-backsliding adjustments that will maintain emissions at 2001 and 2002 levels.
9. The first phase of the off-road diesel sulfur program is effective in 2007 and the second phase is effective in 2011.
10. Ozone non-attainment designations made April 2004. State Implementation Plans (SIPs) are due by June 2007. Compliance, depending upon classification, required between 2007 and 2021. EPA promulgated a Phase 1 implementation rule in April 2004, but has not yet promulgated a Phase 2 rule.
11. New Source Review reform (RMRR) is subject to litigation. Refiners face uncertainty in meeting regulatory requirements. The NSR program was upheld in part by the courts however, part of the rule was remanded to EPA. Refiners support the reforms. EPA is continuing enforcement actions under the old rules.
12. EPA set a new PM 2.5 NAAQS in 1997 and designated nonattainment areas in December 2004, but has not yet promulgated implementation standards. EPA is currently conducting a five-year review of the standard.
13. EPA has entered into a consent decree with environmental organizations to review, and possibly revise, the New Source Performance Standards for petroleum refineries.
14. Proposed rule expected mid 2006.
15. The Senate and the Administration support new authority for DHS to regulate chemical security which will impact refiners. Many facilities currently meet Coast Guard regulations under MTSR.

Fuels Timeline



Appendix A

PETROLEUM REFINING: APPLICABLE REGULATIONS

Name	Code of Federal Regulation (CFR) Cite	Effective Date
CLEAN AIR ACT (CAA)		
New Source Performance Standards (NSPSs)	40 CFR Part 60	
Subpart A: General Provisions	40 CFR Part 60	mid 1970s
Subpart Cb: Designated Facilities - Existing Sulfuric Acid Units	40 CFR Part 60	1991
Subpart D: Fossil-Fuel Fired Steam Generators Constructed After 8/17/71	40 CFR Part 60	1977
Subpart Da: Electric Utility Steam Generating Units Constructed After 9/18/78	40 CFR Part 60	1978
Subpart Db: Industrial-Commercial-Institutional Steam Generating Units	40 CFR Part 60	1987
Subpart Dc: Small Industrial-Commercial-Institutional Steam Generating Units	40 CFR Part 60	1990
Subpart H: Sulfuric Acid Units	40 CFR Part 60	1977
Subpart J: Petroleum Refineries	40 CFR Part 60	1978
Subpart K: Storage Vessels for Petroleum Liquids Constructed, Reconstructed or Modified between 6/11/73 and 5/19/78	40 CFR Part 60	1977
Subpart Ka: Storage Vessels for Petroleum Liquids Constructed, Reconstructed or Modified between 5/18/78 and 7/23/84	40 CFR Part 60	1980
Subpart Kb: Volatile Organic Liquid Storage	40 CFR Part 60	1987
Subpart GG: Stationary Gas Turbines	40 CFR Part 60	1978
Subpart UU: Asphalt Processing and Roofing Manufacturing	40 CFR Part 60	1982
Subpart VV: Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (SOCMI)	40 CFR Part 60	1983
Subpart XX: Bulk Gasoline Terminals	40 CFR Part 60	1983
Subpart GGG: Equipment Leaks of VOC in Petroleum Refineries	40 CFR Part 60	1984
Subpart III: VOC Emissions for SOCMI Air Oxidation Unit Processes	40 CFR Part 60	1990
Subpart NNN: VOC Emissions for SOCMI Distillation Processes	40 CFR Part 60	1990
Subpart QQQ: VOC Emissions for Petroleum Refinery Wastewater Systems	40 CFR Part 60	1988
Subpart RRR: SOCMI Reactor Processes	40 CFR Part 60	1993
National Emission Standards for Hazardous Air Pollutants (NESHAPs)		
Subpart A: General Provisions	40 CFR Part 61	1973
Subpart J/V: Equipment Leaks (Fugitive Emission Sources) of Benzene	40 CFR Part 61	mid 1980s
Subpart M: Asbestos	40 CFR Part 61	1984
Subpart Y: Benzene Emissions from Benzene Storage Vessels	40 CFR Part 61	mid 1980s
Subpart BB: Benzene Emissions from Benzene Transfer Operations	40 CFR Part 61	mid 1980s
Subpart FF: Benzene Waste Operations	40 CFR Part 61	1993

Name	Code of Federal Regulation (CFR) Cite	Effective Date
NESHAPs for Source Categories		
Subpart A: General Provisions	40 CFR Part 63	1994
Subpart B: Control Technology Determination	40 CFR Part 63	1994
Subpart F: SOCM I	40 CFR Part 63	1994
Subpart G: SOCM I Process Vents, Storage Vessels, Transfer Operations, and Wastewater	40 CFR Part 63	1994
Subpart H: Equipment Leaks	40 CFR Part 63	1994
Subpart I: NESHAP for Organic Hazardous Air Pollutants (HON); Certain Processes Subject to the Negotiated Regulation for Equipment Leaks	40 CFR Part 63	1994
NESHAP for HON (partially under stay pending reconsideration for compressors, surge control vessels, and bottom receivers)	40 CFR Part 63	4/22/94
Subpart Q: Industrial Cooling Towers	40 CFR Part 63	1994
Subpart R: Stage I Gasoline Distribution Facilities	40 CFR Part 63	12/14/94
Subpart T: Halogenated Solvent Cleansing (MACT)	40 CFR Part 63	12/2/94
Subpart Y: NESHAP for Marine Tank Vessel Loading and Unloading Operations (MACT)	40 CFR Parts 9, 63	mid 1995
Subpart CC: NESHAP for Petroleum Refining — Phase I (MACT)	40 CFR Parts 9, 60, 63	mid 1995
Stack Height Provisions	40 CFR Part 51, Subpart G	1986
Control Technology Guidelines (CTGs)		
Petroleum Liquid Storage In External Floating Roof Tanks	40 CFR Part 52	1978
Petroleum Liquid Storage in Fixed Roof Tanks	40 CFR Part 52	1977
Petroleum Refinery Equipment Leaks	40 CFR Part 52	1978
Refinery Vacuum Producing Systems, Wastewater Separators and Process Unit Turnarounds	40 CFR Part 52	1977
SOCMI Air Oxidation Processes	40 CFR Part 52	1984
SOCMI Distillation Operations and Reactor Processes	40 CFR Part 52	1993
Tank Truck Gasoline Loading Terminals	40 CFR Part 52	1977
Fuels		
Fuel and Fuel Additives:		
Registration Requirements	40 CFR Part 79	5/27/94
Interim Requirements for Deposit Control Gasoline Additives	40 CFR Part 80	1/1/95
Reid Vapor Pressure Limitation	40 CFR Part 80	late 1980s
Oxygenated Fuel Requirement	40 CFR Part 80	1992
Lead Phaseout	40 CFR Part 80	12/31/95
Reformulated Gasoline	40 CFR Part 80	1/1/95
Low Sulfur Diesel	40 CFR Part 85	1993
Permits		
State Operating Permit Program - Title V (Revised 8/29/94)	40 CFR Part 70	1992
Prevention of Significant Deterioration (new sources in attainment areas) and New Source Review (new sources in non-attainment areas); LAER requirements (existing source)	40 CFR Part 52	1978
Stratospheric Ozone	40 CFR Part 82	1990-2015

Name	Code of Federal Regulation (CFR) Cite	Effective Date
Acid Rain Provisions	40 CFR Parts 72, 73, 75, 77, 78	ongoing
Nitrogen Oxides Emission Reduction Program	40 CFR Part 76	1994
CLEAN WATER ACT (CWA)		
Discharge of Oil: Notification Requirements	40 CFR Part 110	1987
Designation of Hazardous Substances	40 CFR Part 116	1978
Notice of Discharge of a Reportable Quantity	40 CFR Part 117	late 1970s
Spill Prevention, Control, and Countermeasures (SPCC) Requirements for Oil Storage	40 CFR Part 112	mid 1970s
General Provisions for Effluent Guidelines and Standards	40 CFR Part 401	1974
Toxic Pollutant Effluent Standards	40 CFR Part 129	1977
Effluent Guidelines and Categorical Pretreatment Standards	40 CFR Part 419	late 1970s - mid 1980s
Water Quality Standards for Toxic Pollutants	40 CFR Part 131	2/5/93
General National Pretreatment Standards	40 CFR Part 403	early 1980s
Great Lakes Water Quality Guidance	40 CFR Parts 9, 122, 123, 131, 132	early 1995
NPDES		
Stormwater Application, Permit, and Reporting Requirements Associated with Industrial Activities	40 CFR Part 122	5/4/92
Permit	40 CFR Parts 121-125	early 1980s
OIL POLLUTION ACT (OPA)		
Natural Resource Damage Assessments (NRDA) under National Oceanic and Atmospheric Administration	15 CFR Part 990	early 1996
Response Plans for Marine Transportation-Related Facilities (interim final rule)	33 CFR Parts 150, 154	1/19/93
Oil Pollution Prevention; Non-Transportation-Related Onshore Facilities	40 CFR Parts 9, 112	8/30/94
RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)		
Non-Hazardous Waste Requirements (Subtitle D)	40 CFR Parts 256, 257 (Federal guidelines for state/local requirements)	late 1970s, early 1980s
Subtitle C Requirements		
General Requirements for Hazardous Waste Management	40 CFR Part 260	late 1970s
Identification and Listing of Hazardous Wastes and Toxicity Characteristics	40 CFR Part 261	late 1970s
Standards Applicable to Generators of Hazardous Wastes		
Subpart A: General Provisions	40 CFR Part 262	early 1980s
Subpart B: Shipping Manifest	40 CFR Part 262	early 1980s
Subpart C: Packaging, Labeling, Marking, and Placarding	40 CFR Part 262	early 1980s
Subpart D: Recordkeeping and Reporting	40 CFR Part 262	early 1980s
Subparts E & F: Exports and Imports	40 CFR Part 262	early 1980s
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities (and generally for Interim Status)		
Subparts A & B: General Provisions & Facility Standards	40 CFR Part 264 (265)	early 1980s
Subparts C & D: Preparedness, Prevention, & Emergency Plans	40 CFR Part 264 (265)	early 1980s
Subpart E: Recordkeeping/Reporting Requirements	40 CFR Part 264 (265)	early 1980s

Name	Code of Federal Regulation (CFR) Cite	Effective Date
Subpart F: Releases from Units	40 CFR Part 264	early 1980s
Subpart F: Groundwater Monitoring Requirements (Interim Status only)	40 CFR Part 265	early 1980s
Subpart G: Closure and Post-closure Requirements	40 CFR Part 264 (265)	1986
Subpart H: Financial Responsibility Requirements	40 CFR Part 264 (265)	early 1980s
Subparts I, J, K, & L: Use and Management of Containers, Tank Systems, Surface Impoundments, & Waste Piles	40 CFR Part 264 (265)	early 1980s (except tanks: 1986)
Liners and Leak Detection for Hazardous Waste Land Disposal Units	40 CFR Part 264 (265)	1992
Double Liners and Leachate Collection Systems for Hazardous Waste Disposal Units	40 CFR Parts 144, 264 (265)	1992
Subparts M, N, & O: Land Treatment, Landfills, & Incinerators	40 CFR Part 264 (265)	early 1980s
Subpart S: Corrective Action	40 CFR Part 264 (265)	1985 (1993)
Subparts AA, BB, & CC: Air Emission Standards for Process Vents; Equipment Leaks; & Tanks, Surface Impoundments, and Containers	40 CFR Part 264 (265)	
Phase I	40 CFR Part 264 (265)	1990
Phase II	40 CFR Part 264 (265)	1994
Standards for the Management of Specific Hazardous Wastes	40 CFR Part 266	1985
Land Disposal Restrictions	40 CFR Part 268	1986
Phase I: Contaminated Debris and Newly Identified Wastes, F037 and F038 Petroleum	40 CFR Parts 148, 268	1992, 1993
Phase II: Set Treatment Standards (BDAT) for TC Wastes and Establish Universal Treatment Standards	40 CFR Parts 148, 268	1994
Permits	40 CFR Parts 270, 271, 272	1980s
Standards for the Management of Used Oil: Used Oil Destined for Recycling	40 CFR Part 279	1993
Underground Storage Tanks: Technical Standards and Corrective Action	40 CFR Part 280	1988
SAFE DRINKING WATER ACT (SDWA)		
Underground Injection Control Regulations	40 CFR Parts 144, 146	12/16/93
SUPERFUND (CERCLA)		
Natural Resource Damage Assessments (also under CWA)	43 CFR Part 11	3/17/94
Reportable Quantities Releases (Notification to National Response Center)	40 CFR Part 302	mid 1980s
Extremely Hazardous Substances (EHSs) Emergency Planning	40 CFR Part 355	1987
EHS Release Notification (Notification to State Emergency Response Commission, Local Emergency Response Commission) and Follow-up	60 CFR Part 355	mid 1980s
Community Right-To-Know		
Hazardous Chemicals (Material Safety Data Sheet Chemicals) Inventory Reporting	40 CFR Part 370	late 1980s
Toxic Chemical Release Reporting	40 CFR Part 372	1988
Expansion of TRI List	40 CFR Part 372	11/30/94

Name	Code of Federal Regulation (CFR) Cite	Effective Date
TOXIC SUBSTANCES CONTROL ACT (TSCA)		
General Provisions	40 CFR Part 702	1982
Reporting and Recordkeeping Requirements	40 CFR Parts 704, 710	1988, late 1970s
Chemical Information Rule	40 CFR Part 712	1982
Health & Safety Data Reporting	40 CFR Parts 716	1986
Premanufacture Notification (and Exemptions)	40 CFR Parts 720 (723)	1983 (1995)
Significant New Uses	40 CFR Part 721	1988
Chromium Content of Cooling Towers	40 CFR Part 749	1990
Rules for Controlling Polychlorinated Biphenyls	40 CFR Part 761	1979
Asbestos-Containing Products Labelling Requirements	40 CFR Part 763	1979

Update of Appendix A¹

Name	Code of Federal Regulation (CFR) Cite
CLEAN AIR ACT (CAA)	
New Source Performance Standards	40 CFR Part 60
Subpart CCCC: Commercial and Industrial Solid Waste Incineration Units	40 CFR Part 60
NESHAPS for Source Categories	40 CFR Part 63
Subpart EEE: Hazardous Waste Combustors	40 CFR Part 63
Subpart UUU: Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units (Refinery MACT II)	40 CFR Part 63
Subpart EEEE: Organiz Liquids Distribution (Non- Gasoline)	40 CFR Part 63
Subpart FFFF: Miscellaneous Organic Chemical Manufacturing	40 CFR Part 63
Subpart YYYY: Stationary Combustion Turbines	40 CFR Part 63
Subpart GGGGG: Site Remediation	40 CFR Part 63
Subpart LLLLL: Asphalt Roofing and Asphalt Processing	40 CFR Part 63
Subpart DDDDD: Industrial/Commerical/Institutional Boilers and Process Heaters	40 CFR Part 63
Subpart ZZZZZ: Reciprocating Internal Combustion Engines	40 CFR Part 63
Fuels	40 CFR Part 80
Subpart H: Tier II Gasoline Sulfur	40 CFR Part 80
Subpart I: Ultra Low Sulfur Highway Diesel	40 CFR Part 80
Subpart J: Mobile Source Air Toxics	40 CFR Part 80

¹ As of April 2004 Source: NPRA

Attachment 8

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A Note to Members of the House and Senate
Re: Refining and Energy Supply Issues
October 5, 2005

In the aftermath of Hurricanes Katrina and Rita, refinery issues have been front and center in many people's minds. For some time now, NPRA's priority issue has been the importance of U.S. refining capacity to the nation's economy and energy security. *The Wall Street Journal* recently published an editorial on this subject, entitled "*Refinery Incapacity*." Putting the introduction and ethanol-related dicta aside, its comments on refining-related issues are compelling. Few, if any of us ever see an editorial piece with which we agree 100%. But much that is said in this particular editorial directly on the subject of refining capacity is extremely worthwhile. Given Congress' current level of interest in this issue, we want to make certain that you do not miss this important item. A link to the editorial is provided below.

<http://webreprints.djreprints.com/29816.html>

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Thank you for your continuing interest in and support for the nation's refining and petrochemical industries.

Yours sincerely,

A handwritten signature in black ink that reads "Bob Slaughter". The signature is fluid and cursive, with a long horizontal stroke at the end.

Bob Slaughter
President

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WEDNESDAY, SEPTEMBER 28, 2005

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REVIEW & OUTLOOK

Refining Incapacity

Midway through his press appearance Monday, we wondered if President Bush was going to don a cardigan. He was waxing on about energy "conservation," à la Jimmy Carter, and at one point he even said Americans should "curtail nonessential travel." Maybe they should turn down their thermostats and let their kids tap their keyboards with gloves on, too.

Only belatedly did Mr. Bush get around to the real energy problem that Hurricanes Katrina and Rita revealed for all Americans to see: the degree to which government policy has limited energy production so that a single big storm can deliver a supply shock that sends prices through the roof. Exhibit A is the oil refining industry, which hasn't built a new refinery in America since . . . before Jimmy Carter was in office (1976).

Rita shuttered 27% of the nation's capacity to refine crude oil into gasoline, heating oil and other products. This followed Katrina, which shut down 10% of capacity, sending the average price of gasoline up to \$3.07 a gallon. Things are now slowly getting back to "normal," though normal is not a synonym for good.

In 1981, there were 325 refineries in the U.S. with a capacity of 18.6 million barrels per day. Today, there are 148, with a capacity of about 17 million barrels—though U.S. demand for gasoline has increased more than 20%. From 1993 to 2002, the average return on investment in the refining industry was 5.5%, or less than half the S&P industrials average of 12.7%.

One explanation for this performance is the historically low gas prices over much of the past 20 years; there has often been little incentive to build new capacity. But just as big a problem are onerous and

costly regulatory burdens that have sucked profits from the industry. This includes a permitting process that is subject to endless bureaucratic delay and court challenges. The one company that is even considering building a new refinery—Arizona Clean Fuels Yuma—has been trying to obtain its necessary air permits for nearly seven years.

Politicians have done as much damage as the hurricanes.

Refiners have also had to spend some \$47 billion in the past 12 years to meet the demands of, among other laws, the Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, the Safe Drinking Water Act, the Oil Pollution Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response, Compensation and Liability Act. And from 2006 to 2012, refiners will be forced to comply with 14 new major environmental programs.

One of those is a rule to reduce sulfur in gasoline, which will go into its final stage next year. The U.S. refining industry will spend \$8 billion to comply, and should be able to meet federal deadlines. But the rule further limits the ability to import extra gasoline, since many foreign firms are unable or unwilling to meet the new standards.

Ditto a new low-sulfur diesel mandate, which carries another \$8 billion price tag. Refiners are understandably worried that low-sulfur diesel, which must go through the same pipes as higher-sulfur products, will ultimately fail to meet specifications and will have to be reprocessed—potentially causing a major diesel-fuel crunch.

The recent energy bill only makes things worse. Its new ethanol mandate, a payoff to Midwest farming interests, will involve complicated refinery changes. And Congress's failure to pass liability protection for makers of MTBE, a fuel additive, will make it difficult for refiners to keep using that product next year. MTBE currently makes up a significant 1.6% of the nation's gasoline supply (more in certain areas), and refiners will have to find something to replace it. Good luck.

Refining companies have actually supported many of these environmental programs. The industry's complaint is that policymakers have put little thought into the timing or cumulative impact of these rules. At the Department of Energy's request, the National Petroleum Council performed two studies of the refining industry (in 2000 and 2004) and among its top recommendations was that regulators sequence environmental programs to give refiners some breathing room. Congress hasn't lifted a finger in response.

Meanwhile, America's energy supply crunch is only going to get worse. Demand for petroleum products is expected to rise by 1.6% annually for the next 25 years. Yet America's refineries are already operating at 95% capacity, while imports are both costly and limited. Assuming the basic law of supply and demand, Americans are looking at sustained Katrina-like gas prices and shortages for years to come.

Congressional Republicans are mulling several ideas, including bills that would speed up refinery permitting or convert old military bases into refinery sites. These are good first steps, but at some point the political class is going to have to find the backbone to ease the rules that it has imposed and that are creating today's energy shortages.